Preferred career choice of medical students at a medical university in Vietnam

Preferred career choice of medical students

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Abstract

Aim: This research identifies the ratio of medical specializations among categories of career groups and analyses the differences between urban and suburban student backgrounds at a medical school in Ho Chi Minh City, South Vietnam.

Material and Method: A cross-sectional questionnaire survey was conducted at the beginning of 2019. Data and information collection for this study involved current (2019) medical students at the Pham Ngoc Thach University of Medicine in Ho Chi Minh City, South Vietnam. A total of 1,030 current medical students participated in this study that consisted of 240 third-year students, 256 fourth-year students, 276 fifth-year student, and 258 sixth-year students.

Results: The findings of this research show that students of PNTU tended to become medical specialists rather than medical practitioners. Those who preferred family medicine to other disciplines were slightly older (23.8 > 22.95, p =0.046); fifth and sixth year students (31.6% and 50% respectively) and female students tended to choose family medicine more than males (63.1% vs 34.2%). Female students chose internal medicine (59% vs 38.7%) and medical science (62.6% vs 35.8%) more than males. A small number of suburban students wanted to become family physicians, while most students wanted to be specialists (2.7% vs 97.3%, p<0.001).

Discussion: This study has discovered that the number of medical students who prefer specialist training outnumbers those interested in becoming medical generalists. In Vietnam, less than 15% of the total participants considered family medicine or general internal medicine as an ideal career.

Keywords

Medical student; Specialist; Family medicine

Introduction

Since the 19th century, studies have found that a higher ratio of primary care physicians in the population produces better health outcomes [1-3]; lowers the rate of all causes of mortality, such as low birth weight and lifestyle factors (obesity, alcohol use, and smoking); and improves sociodemographic measures (percentages of elderly, urban, and minorities; education; income; unemployment; and pollution) [4,5]. However, studies have also found that in low and middle- income countries, Universal Health Coverage (UHC) cannot be fully implemented because the number of primary care providers is relatively low [6].

A key problem in this circumstance was that family medicine practitioners are in extremely short supply. This lack of family physicians is a major issue for Vietnam in relation to the implementation of the PHC strategy and in the pursuit of UHC. Although the need for family physicians was mentioned in the plan Decision No. 935/QB-BYT, the total number of doctors of this type is currently small. In this case, it is necessary to innovate and develop a strategy to encourage medical students, who are the future health workforce, to follow family medicine training and practice to align with and suit the transition of the Vietnamese health system.

This research identifies the ratio of medical specialization among categories of career groups and analyses the differences between urban and suburban student backgrounds at a medical school in Ho Chi Minh City, South Vietnam.

Material and Methods

Research Design

The main objective of this study is to explore the factors affecting students' choice of career, identify the differences between the students who choose family medicine and other specializations, and identify factors that positively influence the selection of family medicine as the postgraduate training program.

To implement this investigation, a cross-sectional survey was applied in this research. A cross-sectional study design is a type of observational study design, in which the investigator simultaneously measures exposures and outcomes in the study participants [7].

Population and Criteria Selection

At Pham Ngoc Thach University of Medicine (PNTU), the general physician program encompasses 6 years of training: medical students acquire a learning foundation within the first 2 years of full time at the university.

A cross-sectional survey involving undergraduate medical students who have clinical experience was planned. Thus, first and second year students were excluded from the survey. Due to the previous recruitment policy of PNTU, only Vietnamese students with Ho Chi Minh citizenship are eligible to be enrolled in this medical program. Thus, international students and rural students who enrolled to follow the incorporation program (students who were sent from rural areas and will return back after finishing the program) are disregarded for this study. Consequently, the qualified population for this study was as follows: third-year, fourth-year, and sixth-year students, who have official citizenship in Ho Chi Minh city.

Data analysis

The data analyses were descriptively presented with frequency distributions and percentages. The Chi-square test was utilized to test the relationship between discrete variables. In the case of a small number in comparison, the Fisher test was applied to test the relationship of independent variables among the small size of the dependent variable. A $x2$ level of 5% (p=0.05) was used to test for statistical significance.

Ethical considerations

This study received ethics approval from PNTU (Protocol 5732/QD-TDHYKPNT). Informed consent was obtained from each student invited to participate in the research project, which was administered in the format of an electronic-based survey questionnaire. No personal identification was required during the data collection process.

Results

A total of 1,030 (87%) respondents completed the survey in response to original invitations to participate in this study. The response rates were 80.8% (240 of 297), 85.5% (256 of 303), 93% (276 of 297) and 89.9% (258 of 287) for third-year, fourth-year, fifth-year, and sixth-year students, respectively (Table 1). Overall, the respondents were predominantly single (99.3%); 56.0% of respondents were female; most were living in an urban setting (89.2%); and they did not have parents (80.%) or relatives (57%) who were health workers.

In general, the overall mean age of respondents was 22.9 (SD=1.4) years. In addition, there was a significant difference in the mean age amongst each group (p=0.026) and between students who preferred FM and those who preferred a specialization (p=0.046). Students who preferred FM tended to have a higher age (23.8 vs. 22.9) (Table 1). In relation to parent's education, 48.9% of respondents' fathers had bachelor qualifications and 40.6% had mothers with high school/junior high school qualifications. However, the results showed no significant difference amongst groups or between the FM group and the combined group (Table 2).

In regard to social-economic status (as shown in Table 3), the income-earning per person index recorded that the majority (45%) of the household income of students was 2.5–10 million VND, 27.1%: 10–20 million VND, 18.2% earned over 20 million VND, and only 5% earned less than 2.5 million VND. The $x2$ test revealed a significant difference between urban and suburban family earnings, demonstrating that urban families tend to have higher incomes compared with suburban families (p=0.014). After summarising the item list of respondent inputs, the wealth index showed that the majority of students' families belonged to the middle class (38.1%) and high-middle class (37.5%). Furthermore, about 74.1% of students declared that they were totally dependent on family income, and 17.7% of students had incomes of less than 2.5 million VND (approximately $US 100) per month. The index also confirmed that there was no difference in economic status affecting students' choice of the medical profession. Based on the results, it can be concluded that the career choice did not depend on the demographic information of medical students, except for the mean age (students who preferred FM were slightly older than the rest of the students).

Table 1. General features of Respondents by Preferred Career Choice

General features	Family Medicine N= 38 (%)	Emergency Medicine N= 18 (%)	Surgical Specialisations N=318 (%)	Internal Medicine N=583 (%)	Medical Science N=67 (%)	Other N=6 (%)	Total N=1030 (%)	p Value
Class year								.000
3rd-year	1 (2.6)	2 (11.1)	99 (31.1)	128 (21.9)	9 (13.4)	1 (16.7)	240 (23.3)	
4th-year	6 (15.8)	6 (33.3)	58 (18.2)	173 (29.6)	13 (19.4)	0 (0)	256 (24.8)	
5th-year	12 (31.6)	7 (38.8)	88 (27.6)	153 (26.2)	14 (20.8)	2 (33.3)	276 (26.7)	
6th-year	19 (50)	3 (16.6)	73 (22.9)	129 (22.1)	31 (46.2)	3 (50)	258 (25.0)	
Age								.026
Mean (SD)	23.8 (0.95)	23.4 (1.65)	22.8 (1.4)	22.9 (1.4)	23.21 (1.18)	23.8 (0.75)	22.9 (1.4)	
Gender								.070
Male	13 (34.2)	9 (50)	153 (48.1)	226 (38.7)	24 (35.8)	3 (50)	428 (41.5)	
Female	24 (63.1)	7 (38.8)	157 (49.3)	344 (59.0)	42 (62.6)	3 (50)	577 (56.0)	
Not to share	1 (2.63)	2 (11.1)	8 (2.51)	13 (2.22)	1 (1.49)	0 (0)	25 (2.42)	
Marital status								.553
Single	38 (100)	18 (100)	313 (98.4)	582 (99.8)	66 (98.5)	6 (100)	1023 (99.3)	
Married	0 (0)	0 (0)	3 (0.94)	1 (0.17)	1 (1.49)	0 (0)	5 (0.48)	
Separated, divorced, or widowed	0 (0)	0 (0)	2 (0.62)	0 (0)	0 (0)	0 (0)	2 (0.19)	

Table 2. Parents' information

Parents' information	Family Medicine N= 38 (%)	Emergency Medicine N= 18 (%)	Surgical Specialisations N=318 (%)	Internal Medicine N=583 (%)	Medical Science N=67 (%)	Other N=6 (%)	Total N=1030 (%)	p Value
Health worker parents								.672
Both	2 (5.26)	1 (5.55)	26 (8.17)	53 (9.09)	6 (8.95)	0 (0)	88 (8.54)	
Father	0 (0)	2 (11.1)	13 (4.08)	27 (4.63)	2 (2.98)	1 (16.7)	45 (4.36)	
Mother	5 (13.1)	2 (11.1)	20 (6.28)	39 (6.68)	7 (10.4)	0 (0)	73 (7.08)	
None	31 (81.5)	13 (72.2)	259 (81.4)	464 (79.5)	52 (77.6)	5 (83.3)	824 (80)	
Health worker relatives								.016
Grandfather / Grandmother	1 (2.63)	2 (11.1)	13 (4.08)	9 (1.54)	0 (0)	1 (16.6)	26 (2.52)	
Uncle / Aunt	15 (39.4)	5 (27.7)	99 (31.1)	164 (28.1)	24 (35.8)	0 (0)	307 (29.8)	
Brother / Sister	1 (2.63)	1 (5.55)	34 (10.6)	67 (11.4)	5 (7.46)	2 (33.3)	110 (10.6)	
None	21 (55.2)	10 (55.5)	172 (54.0)	343 (58.8)	38 (56.7)	3 (50)	587 (56.9)	
Father's Education								.347
Postgraduate	1 (2.63)	0 (0)	35 (11.0)	55 (9.43)	4 (5.97)	1 (16.7)	96 (9.32)	
Bachelor	18 (47.3)	9 (50)	153 (48.1)	292 (50.0)	28 (41.7)	4 (66.7)	504 (48.9)	
College / Vocational training	6 (15.7)	1 (5.55)	28 (8.80)	52 (8.91)	10 (14.9)	0 (0)	97 (9.41)	
High school / Junior high school	13 (34.2)	6 (33.3)	88 (27.6)	170 (29.1)	24 (35.8)	0 (0)	301 (29.2)	
Primary school or below	0 (0)	2 (11.1)	14 (4.40)	14 (2.40)	1 (1.49)	1 (16.7)	32 (3.10)	
Mother's Education								.910
Postgraduate	1 (2.63)	2 (11.1)	22 (6.91)	58 (9.94)	5 (7.5)	0 (0)	88 (8.54)	
Bachelor	11 (28.9)	5 (27.7)	101 (31.7)	156 (26.7)	16 (23.9)	2 (33.3)	291 (28.2)	
College / Vocational training	10 (26.3)	4 (22.2)	56 (17.6)	91 (15.6)	9 (13.4)	0 (0)	170 (16.5)	
High school / Junior high school	14 (36.8)	5 (27.7)	117 (36.7)	245 (42.0)	34 (50.7)	4 (66.6)	419 (40.6)	
Primary school or below	2 (5.26)	2 (11.1)	22 (6.91)	33 (5.66)	3 (4.5)	0 (0)	62 (6.01)	

Discussion

This study revealed a trend of career choice amongst the medical students of PNTU which demonstrates that internal medicine and surgical specialization were the two dominating groups, accounting for more than 80% of the total student preferences while less than 20% included emergency medicine, medical science, family medicine, and other groups. In general, the ratio among medical career groups reflected the present situation of the health workforce in Vietnam, following the disease pattern and the previous development trend of Vietnam's health delivery system (hospital-centrism) [8]. As the success of the Satellite Hospital project, which was designed to strengthen capacity for and quality of care at the lower level hospitals, progresses, more job opportunities are being created in that hospital workplace. The family doctor network project has met many difficulties and has had to manage with limited resources along with the distrust of the Vietnamese community. These issues help explain why most of the medical students tended to choose internal medicine and surgery: they have a greater chance of working in a hospital environment with better clinical conditions than CHC or in the university environment [9]. To support this point, most of the students from internal medicine and surgery groups indicated a high preference for working in an urban center (more than 80%), and more than 80%

Table 3. Household economic status and student background

Household economic status	Family Medicine N= 38 (%)	Emergency Medicine N= 18 (%)	Surgical Specialisations N=318 (%)	Internal Medicine N=583 (%)	Medical Science N=67 (%)	Other N=6 (%)	Total N=1030 (%)	p Value
Average monthly income per person								.136
< 2.5 million	2 (5.26)	0 (0)	18 (5.66)	26 (4.45)	5 (7.46)	1 (16.7)	52 (5.04)	
2.5 -10 million	18 (47.3)	8 (44.4)	138 (43.3)	259 (44.4)	38 (56.7)	3 (50)	464 (45.0)	
>10.0 -20.0 million	9 (23.6)	4 (22.2)	86 (27.0)	163 (27.9)	17 (25.3)	1 (16.7)	280 (27.1)	
>20.0 million	5 (13.1)	6 (33.3)	66 (20.7)	104 (17.8)	6 (8.95)	1 (16.7)	188 (18.2)	
Wish not to answer	4 (10.5)	0 (0)	10 (3.14)	31 (5.31)	1 (1.49)	0 (0)	46 (4.46)	
Student Income per month								.560
None	31 (81.5)	11 (61.1)	227 (71.3)	227 (71.3)	52 (77.6)	4 (66.6)	762 (74)	
< 2.5 million	5 (13.1)	5 (27.7)	56 (17.6)	56 (17.6)	10 (14.9)	2 (33.3)	178 (17.3)	
2.5 - 5.0 million	2 (5.26)	2 (11.1)	28 (8.80)	28 (8.80)	4 (6)	0 (0)	66 (6.4)	
> 5.0 million	0 (0)	0 (0)	4 (1.25)	4 (1.25)	0 (0)	0 (0)	12 (1.2)	
Wish not to answer	0 (0)	0 (0)	3 (0.94)	3 (0.94)	1 (1.5)	0 (0)	12 (1.2)	
Household economic status								.828
Low income	6 (15.7)	1 (5.55)	45 (14.1)	67 (11.4)	8 (11.9)	1 (16.6)	128 (12.4)	
Middle income	14 (36.8)	7 (38.8)	109 (34.2)	221 (37.9)	40 (59.7)	2 (33.3)	393 (38.1)	
Upper-middle income	15 (39.4)	7 (38.8)	120 (37.7)	228 (39.1)	15 (22.3)	2 (33.3)	387 (37.5)	
High income	3 (7.89)	3 (16.6)	44 (13.8)	67 (11.4)	4 (5.97)	1 (16.6)	122 (11.8)	
Student background								.755
Sub-urban	3 (7.89)	1 (5.55)	32 (10.0)	69 (11.8)	6 (8.95)	0 (0)	111 (10.7)	
Urban	35 (92.1)	17 (94.4)	286 (89.9)	514 (88.1)	61 (91.0)	6 (100)	919 (89.2)	

of them confirmed that they chose the disciplines in order to secure more job opportunities to work in hospitals and achieve promotions. However, students who preferred family medicine and medical science also liked to work in the hospital, but there are limited positions available, and their working environment organized in the university, laboratory or CHCs setting usually has lower condition compared to hospitals. Therefore, the other ratio also shows that a limited number of students preferred family medicine (less than 6%) and medical sciences (about 8%). Overall, the hospital-centrism trend continues to influence the career choices of medical student, and this has resulted in a huge number of students who preferred jobs in urban hospitals. It is expected that the family doctor clinic model will continue to face more difficulties in providing primary care services under the principles of family medicine due to the low interest to the discipline.

Moreover, this study also observed a tendency to choose a profession in different learning groups. Our data show the decreasing trend of internal medicine and surgical specialization groups along with a significant increase in Family Medicine and Medical Science groups among the third-year to sixth-year students. Both internal medicine and surgery accounted for more than 90% of choices in the perception of third-year students. This can be explained by the first-year program, which merely focuses on internal medicine and surgical specialization. However, in the selection of fourth-year students, the percentage of surgery was significantly dropped. It could be argued that surgery is a difficult course that PNTU students usually struggle to complete. According to the clinical program, many courses are more related to internal medicine than surgery, and this

explains why the percentage of choice for Surgery has dropped, while internal medicine has increased significantly this year. In the next two years of the training program, there was a balance between internal medicine and surgery, along with other courses such as family medicine, public health, and preventive medicine, providing students more options for future careers. Therefore, there was a decrease in the percentage of the two major groups along with a significant increase in family medicine and medical sciences choices. For example, students started to study family medicine in the fifth year of the program, and then the percentage of family medicine almost doubled in the choice of sixth year students (4.3% –7.4%). In short, the curriculum of the medical training program indirectly contributes to the career selection of students.

Conclusion

The results of this study identified the ratios amongst medical student career groups and found that more than 80% of students specified that they saw themselves in the internal medicine and surgery groups. Moreover, the findings highlighted the most favored medical careers among students, and these included disciplines such as pediatrics, family medicine, dermatology, general internal medicine, otolaryngology, neurology, obstetrics/gynecology surgery, and imaging diagnosis.

approval of the final version of the article.

Animal and human rights statement
All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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